

## MINUTES

Work Group #3 Uplands of the  
Flood Plain Management Subcommittee  
of the Water Resources Coordinating Council

August 20, 2009

9:30 AM

Rebuild Iowa Office, Conference Room 2

Wallace Building

502 E. Ninth Street, 2<sup>nd</sup> Floor

Des Moines, IA 50319

### Attendees:

#### Work Group Members:

Tom Oswald, HSEMD, Work Group Chair

Leah Maass, producer

Rick Cruse, Iowa Water Center

John Goode, Monroe County Engineer

Kirk Siegle, Iowa Corn Growers

Paul Assman, Crawford County Engineer

Jim Gillespie, IDALS

Larry Weber, IIHR – U of Iowa

Vitold Krajewski, Iowa Flood Center – U of Iowa

Jeri Neal, Leopold Center for Sustainable Agriculture

John Myers, NRCS

Ken Tow, Rebuild Iowa Office

Susan Judkins, Rebuild Iowa Office

Linda Kinman, Des Moines Water Works

Steve Hopkins, DNR

1. Work Group Chair Tom Oswald welcomed the group. The minutes of the 8/5/09 meeting were approved.
2. The order of the agenda was revised slightly to prepare A-V equipment. The Chair reviewed a matrix of prior recommendations from the Iowa Watershed Taskforce (2001), the Iowa Water Summit (2003), and the Watershed Quality Planning Task Force (2007). The matrix is posted on the WRCC Resources page of the Rebuild Iowa Office web site.  
[http://www.rio.iowa.gov/wrcc/assets/flood\\_plain\\_prior\\_recommendations.pdf](http://www.rio.iowa.gov/wrcc/assets/flood_plain_prior_recommendations.pdf)
3. The chair also discussed the concept of field level conservation planning systems.
4. Witold Krajewski from the U of I presented a Power Point (posted to the RIO web site at <http://www.rio.iowa.gov/wrcc/assets/Krajewski-08202009-WG3.pdf>) and led a discussion about potential flood mitigation from upland structures. He referenced the concept of “distributed storage,” which involves many small water storage structures

instead of a large reservoir. To be viable, the system must be controllable – an active system. Multiple objectives direct the “best” decisions on activating the system – generating the question of who decides? The entire drainage network in a watershed, including both rivers and streams, is key. The City of Palo is considering distributed storage. Water in their basin travels about three miles per hour. Flooding is a confluence issue. Sometimes a “traffic jam” occurs in a drainage system, and that’s exactly what caused the 2008 Cedar Rapids flood when a storm dropped water on top of an already filled system.

Paul Assman, Crawford County Engineer, said that holding even some water provides some benefit. This was proven with the retention structures in Crawford County that prevented flooding in 1993. The construction cost was covered as follows: state 75%, county 12.5%, city 2.5%, landowner 10%.

Larry Weber from the U of I said that 500,000+ acre feet of storage would be needed to have protected Cedar Rapids from the 2008 flood, based on a recent study.

John Goode, Monroe County Engineer, said four counties (Appanoose, Wapello, Monroe and Davis) are affected by the Soap Creek watershed retention project that has been going on for 30 years. This is a passive project (no human intervention required), with approximately 10 acres of storage per retention structure. He feels the impact of the project has been positive and “tremendous.”

Kirk Siegle commented that landowners will probably want access to any retained water on their land for livestock or irrigation use.

Larry Weber and Witold Krajewsky from the U of I said the potential water storage capacity in various parts of the state is not yet known but is being researched.

Ken Tow agreed that flooding is a confluence issue and reminded the group that Coralville and Louisa County experienced confluence problems during the 2008 flood.

Consensus was reached to recommend a demonstration project or project, also to be potentially called a “priority watershed” or pilot project. LIDAR mapping being conducted by the DNR is 90% complete and can inform the potential site selections. John Myers recommended that a watershed be selected and an active project begun, not just continue studying. We will need to decide if the project should handle an event at 2008 levels, or by some other measure. Other questions involve what can be done within reason, and can and should myths be dispelled.

Paul Assman said, “In Crawford County, we ‘did’ instead of studying and we know it works.” He advised the group to be careful with any recommendations involving dredging; “We’re seeing the results of that in Western Iowa.” He said a decision needs to be made on what is socially and economically acceptable.

Larry Weber suggested that a project needs the flexibility to start small but to go to a larger scale.

Jeri Neal of the Leopold Center urged that the group consider dispelling myths such as “it will never happen again” or “we can control the flooding,” and doing our best to explain what we’ll get from a demonstration project the next time we do flood. The group agreed that a wealth of information has been generated from PL-534 and PL-566 in Western Iowa.

Jim Gillespie from IDALS reminded the group that not all flooding is an “Upland” (Work Group #3) problem and project planners will need to look downstream to the Lowlands.

Linda Kinman from Des Moines Water Works recommends forming a picture of what Iowa will look like and at what cost when outlining a proposed project. Jim Gillespie said a scale model would be helpful. Larry Weber thinks more information is needed to determine the “sweet spot” that would be the best site for a demonstration project. John Goode said a place should be chosen where the benefit will be obvious and can be measured in a positive direction. Witold Krajewski said that’s the problem with the scale of the project since the network controls what happens in the flatlands. In order to say if something works, we will need a “hybrid” model – academics will study and practitioners will implement, and they need to work together.

Tom Oswald of HSEMD reminded that group that Lyle Asell of the DNR often said, “What does it do to fishing? That’s what people will ask.”

Steve Hopkins of the DNR said that funding is available for impaired waters, so if a demonstration area can be identified where impaired waters exist and improvements can be documented, that will enable a funding source to assist with the project.

The group agreed that there could be benefits from identifying a site in the Iowa/Cedar Basin since it was heavily impacted in 2008, including that it would take advantage of other studies already underway in that area as a result of the flooding. John Myers suggested that an area with existing retention structures that could be supplemented with additional structures could be a good choice.

Kirk Siegle mentioned that development means municipalities don’t act like a sponge as farmland does, which has impact downstream. Tom Oswald said the Storm Water Work Group #4 is focusing on this issue.

Witold Krajewski said it would be useful to gather information on soil moisture. A 70-square-kilometer area drains through Palo, and a fast moving river can impede drainage of a small creek, causing it to back up and flood.

Tom Oswald said many groups should be involved in recommending a site and studying the impacts, including the agricultural community, livestock groups, cities, state agencies and universities. Targeted funding and research should be sought. Linda Kinman suggested adding water, waste water, and rural water interests to the list. Ken Tow said the NRCS and DNR are looking at HUCS in conducting a rapid watershed assessment for the state, helping to identify risk.

Factors in identifying a site should include potential storage capacity, ability to both implement and study, ideally in the Iowa/Cedar basin, a community that was impacted in 2008 yet somewhat isolated (i.e. the top of the watershed) to quantify results, ability to collect soil moisture data, an area with a gaging station or recommend installation of a gage in the area, and an area where cities, utilities, and drainage districts will participate voluntarily. The merits of an active vs. passive system were discussed again.

Education will be an important component of any project. The public will want to believe that something will help without understanding all of the complexities. Linda Kinman suggested that an institution like the Science Center of Iowa could install a rainfall simulation model to assist with education. Witold Krajewski said even zooming in with Google Earth allows one to realize the impact of a drainage area.

Tiling issues were discussed. Rick Cruse of the Iowa Water Center asked if studies exist on the impact of tile. Kirk Siegle stated that tile allows a more controlled flow of runoff from agricultural fields which may allow the soil to act as a sponge, thereby reducing some flow – a give-and-take impact. John Goode asked if tiles could be replaced with a structure that would impede the water flow. Perhaps some storage could be achieved from natural ponds. Jim Gillespie commented that some drains are overtaxed and not draining properly. Steve Hopkins asked if a targeted retrofit could help. Tom Oswald said compensation should be considered for crop loss and inconvenience. Leah Maass suggested looking at using existing programs for taking land out of production; Kirk said perhaps CRP around intakes might be an idea. Leah said she knows of perfect areas to try that. Complications could result with Farm Service Agency (FSA); we need to understand the political and regulatory impacts. Tom Oswald expressed a preference for planning for a resource, identifying the needs for that resource, then identifying the potential funding sources including existing programs. Resources include people (i.e. landowners). John Goode agreed that resource planning is critical, and Leah said NRCS boundaries would be the ideal boundaries.

5. Jeri Neal of the Leopold Center and Rick Cruse of the Iowa Water Center briefly discussed research needs. Many of today's decisions are based in a soil survey conducted in the 1950's, with soil types drawn in arbitrarily based on slopes, etc. Updated information is needed as today's needs are more sophisticated. Jeri suggested that we consider how to make data into a community education tool.
6. Jim Gillespie from IDALS provided an update on perceived soil conservation needs, which include planning and development, resources, and people. They especially need the "right" people with the education and background to work with NRCS and hydrologists to provide engineering and technical assistance. Knowledge of new tools like LIDAR is important.
7. Discussion was held on the HF756 requirement to consider perennial ground cover and other agricultural conservation practices. Handouts were distributed from Roger Wolf of the Iowa Soybean Association (in absentia) [http://www.rio.iowa.gov/wrcc/assets/Flood\\_Landscape\\_Paper.pdf](http://www.rio.iowa.gov/wrcc/assets/Flood_Landscape_Paper.pdf) and John Myers of the NRCS. The current corn/bean rotation may not be sustainable beyond 100 or

more years. Perennials improve soil quality and infiltration. Perhaps increasing the soil conditioning index (SCI) could be used as a tool, but Rick Cruse pointed out that once the profile is full, runoff will occur during a catastrophic flood to SCI is a long-term measure.

Witold Krajewski reiterated the need for more education, suggesting that that a media campaign should be undertaken to convey the complexity and integral nature of being prepared, water quality, and quality of life. He participated in another meeting where it was suggested that ISU Extension would deliver the message while others would develop the materials, but ISU Extension resisted since they felt the message was so complex that it required more specific background than their professionals possess. Linda Kinman said that members of the Iowa Association of Water Agencies have also recommended a media campaign, including a distribution to organizations to share with members. John Myers commented that people will forget the flood soon, and a media campaign will help them to remember.

John Goode said his experience in Monroe County underscores that a good perennial ground cover can keep the ditches from filling, and the size of culverts can be reduced. Kirk Siegle said perennial ground cover issues boil down to economics since the cover can only be used by cow-calf operations, and there are dwindling numbers of those in Iowa. Absentee landlords are also an issue; since operators aren't guaranteed to continue past the current year's operation, they can't afford to sink costs into conservation practices. John Goode pointed to the water quality degradation that occurred at Lake Rathbun after switchgrass was taken out as a reason to incentivize growing switchgrass. Leah Maass said people need to understand how things work, not just on their land but in their region. She mentioned a program for women (now the largest percentage of landowners and many of whom are absentee) about not just renting out their property but caring for the land for long-term benefit. John Myers said that landowners work under so many rules, such as those from FSA, but we need to find a way to get stewardship back in the forefront and he's unsure how to do that. Rick Cruse said a landowner will have the long-term benefit from stewardship, and shouldn't just think about the rent check from tenant farmers. Perhaps there can be an effort to match owners with tenants for better conservation. Kirk Siegle agrees that property is farmed that shouldn't be, but no till and other farming methods help to prevent some erosion. We have a problem looking long-term since legislators and bankers only look at a year or two at a time.

8. Engineering issues were covered throughout today's discussion by Paul Assman of Crawford County and John Goode of Monroe County, so won't be repeated in the interest of time.
9. Steve Hopkins of the DNR provided a handout outlining watershed project steps. He said the same steps might hold true for a "watershed flood project." He recommends 25,000 – 30,000 acre and smaller watershed projects "because that's where impact can happen." He highlighted a need to partner with the NRCS, IDALS, Division of Soil Conservation and others in any way to leverage funding. It's usually best to have a project coordinator on the ground. It is hoped that outcomes include water quality improvement. Once a project is in place, both modeling and monitoring are beneficial. Many projects are reviewed for three to four years, but longer monitoring

is needed up to 25 years or more. Currently, projects are often initiated by local members of the Division of Soil Conservation. Tom Oswald said locally led projects are often a key to success. Leah Maass agrees with the need for local buy-in. it helps to understand that everyone within a watershed counts. Unsewered communities have had some of the most successful projects to date.

10. Ken Tow of the Rebuild Iowa Office reviewed the benefit of coordinating program planning and efforts. The RIO Green Paper on Smart Planning responds to a recommendation from the Rebuild Iowa Advisory Commission that we need a renewed emphasis on planning at all levels. Federal partners are important in this effort. We may need a week-long facilitated process to identify needed improvements.
11. Participants briefly reviewed Work Group members' submissions regarding issues outlined in the "recommendation template" (see [http://www.rio.iowa.gov/wrcc/assets/WRCC\\_Recommendation\\_Template.doc](http://www.rio.iowa.gov/wrcc/assets/WRCC_Recommendation_Template.doc)) for issues to be submitted to the Water Resources Coordinating Council for their consideration prior to submitting recommendations to the legislature and governor. Tom Oswald recommended that all prior recommendations from 2001, 2003 and 2007 be incorporated into the 2009 recommendations. Rick Cruse expressed a concern that the prior recommendations are more water quality focused. Tom Oswald and Susan Judkins will compare recommendations generated from Work Group #3 to the prior recommendations to identify the best mix.
12. Review of Recommendations from Work Group #3

Reserving the right to thoroughly review the minutes to add anything that has been missed, the following general recommendation ideas were identified as having been generated today:

- A "hybrid" demonstration project involving both implementation and study should be identified based on specified criteria
  - Capture distributed storage as a concept for the project
  - Include impaired waters as a criteria to enable some funding
  - A tax on bottled water could serve as an additional funding source
- Information should be generated on tiling, potholes and ponds
- We need better soil survey data and soil mapping
  - A soil moisture monitoring network is needed
  - The Soil Conditioning Index should serve as a tool
- Education and a media campaign are needed
  - Landowner/tenant issues should be considered as part of this campaign
- John Myers suggested that climate change should be considered as a factor in the possible need to reassess criteria for conservation practices more frequently
  - Criteria are included in the Field Office Technical Guide
  - Conservation criteria are revised every five years, but design criteria may need to be revised also
  - Storm likelihood needs to be considered; the current basis of a "ten-year-storm" should be analyzed for accuracy of predictions

- Recommend continued State funding of the Iowa Flood Center
- Jim Gillespie reminded the group that a 2010 referendum will decide if three-eighths of a cent of the money raised by a future increase in state sales tax would go to a new protected account for natural resources projects, including soil and water conservation, and parks and trails. It is expected that such funding would generate \$150 million annually and this could serve as a funding source.
- All prior recommendations from 2001, 2003 and 2007 will be considered for inclusion in the recommendations from 2009

### 13. Future Meetings

Minutes, including a list of recommendations, will be forwarded to Work Group Members. An optional meeting date will be set if necessary, perhaps on 9/3/09. Work Group members may attend the next WRCC Subcommittee for Flood Plain Management Recommendations at 10 AM on 9/11/09, or the full WRCC Committee meeting at 1 PM on 9/11/09. Attendance will be encouraged at public meetings that are planned for 9/22/09 in Storm Lake, 9/24/09 in Lewis and Ankeny, 9/29/09 in Mount Pleasant and West Branch, and 10/1/09 in Waverly.

14. Public Input – None as no public representatives were in attendance. Public input will continue to be encouraged at upcoming meetings.

15. Meeting adjourned at 1:55 AM.